

## REMARKS

Applicants note with appreciation that the Examiner has indicated that the priority documents have been received, and that the drawings filed on February 10, 2004 have been accepted.

By the instant amendment, claims 1-15 are pending in the present application. Claims 1, 2, 8 and 9 have been amended.

Claims 1, 2, 7, 8 and 9 have been rejected under 35 U.S.C. §102(b) as being anticipated by Kawai (U.S. Patent No. 6,292,269). Claims 3, 6, 10 and 13 have been rejected as being obvious over the combination of the Kawai patent and U.S. Patent No. 7,072,075 to Kondo. Additionally, claims 1, 4, 8 and 11 have been rejected under 35 U.S.C. §102(b) as being anticipated by the Shirasawa patent (U.S. Patent No. 5,6,89,590). Claims 5 and 12 have been rejected as being obvious over the combination of the Shirasawa patent and Kondo patent.

Applicants' independent claim 1 is directed to an image processing apparatus. The exemplary image processing apparatus is illustrated in Applicants' Figure 1, where color image data is read from a document that is input into feeding system 300 and illustrated as element 301 in Applicants' Figure 1. Reading system 200 comprises an input portion for inputting color image data read from a document by a reading portion. Further illustrated is an exemplary engine-side image processor 100 for detecting whether said input color image data is out of a predetermined color space, and determining whether the input color image data is image noise when the detector detects that the color image data is out of the predetermined color space.

The cited portions of the Kawai patent disclose a calibration type of mechanism (offset/gain adjustment procedure, column 9, lines 33-45) that does not

receive white reference data from a document. As discussed at column 9, lines 46-53 of the Kawai patent, when the control unit 10 detects an offset or gain adjustment instruction, the control unit 10 instructs the sensor to a reference white position at which the CCD 2a can read the reference white line image of the reference white/black plate 1a. The peak white value is not obtained from a document, as recited in the independent claims.

Independent claims 1 and 8 recite, among other features, inputting color image data from a document, wherein the predetermined color space is based on lightness and chromaticity data.

The Kawai patent is directed an image reading device that operates on black and white, i.e., monochrome, image data, and not image color data as recited in the independent claims. Nor does the Kawai patent anticipate the claimed feature wherein the predetermined color space is based on lightness and chromaticity data.

It is respectfully submitted that the Kawai patent does not anticipate independent claims 1, 2, 8 and 9 for at least the above reasons.

Claims 3, 6, 10 and 13 have been rejected under 35 U.S.C. §103(a) as being unpatentable over the combination of the Kawai and Kondo patents.

The Kondo patent is directed to an image reader for reading an image on a sheet document and eliminating stripes that occur when reproducing the image. Although the Kondo patent discloses reading color image data, it does not disclose or suggest, either individually or in combination with the other applied prior art, among other features, the claimed feature wherein the predetermined color space is based on lightness and chromaticity data.

With regard to the combination of the Kawai patent with the Kondo patent, the Office asserts that it would have been obvious to "expand" the determining portion as taught by Kawai to also determine noise. However, the Office has not explained how the "expansion" of the Kawai system, that operates only on black and white image data, to a system that operates on color image data, such as that described in the Kondo patent, would operate. Applicants respectfully submit that the combination of the teachings of the Kondo patent with those of the Kawai patent would destroy the theory of operation of the Kawai patent, which is improper.

Accordingly, Applicants respectfully submit that claims 3, 6, 10 and 13 are allowable over the combination of Kawai and Kondo patents, and notification to that effect is respectfully requested.

Claims 1, 4, 8 and 11 have been rejected under 35 U.S.C. §102(b) as being anticipated by the Shirasawa patent (U.S. Patent No. 5,6,89,590). Applicants respectfully traverse.

The Shirasawa patent is directed to a method of removing background noise (e.g., stains or densities appearing on the sheet of paper, other than the original image, column 1, lines 34-37) using density conversion. The disclosed apparatus converts densities associated with respective color components in color image data for each pixel. The densities for each respective color component are changed into lower densities when the densities concerning respective color components for the pixel comprise white or approximately white portions of the color image.

The Office Action cites Figure 7B of the Shirasawa patent as disclosing the claimed predetermined color space. The process for determining the boundaries of the color space shown in Figure 7B appears to be explained at column 9, line 65-

column 11, line 25. The process uses the distance  $d$  between the origin and a color corresponding to input image data. Using tables 12, 13, and 14, that store predetermined pixel values used for density conversion, selectors 15, 16, and 17, select an appropriate one from the original input data, table output data and pixel value "0". The selectors set the origin of RGB space at 0, 0, 0 when the Euclidian distance  $d$  for a pixel is less than a predetermined threshold  $D_{min}$  (shown apparently as  $V_{min}$  in Figure 7B) smaller than the predetermined threshold  $D_{th}$  (shown apparently as  $V_{th}$  in Figure 7B).

The alleged predetermined color space is based on the Euclidian distance values of the pixels, and not determined based on lightness and chromaticity data, as recited in the independent claims.

For at least the above reasons, claims 1, 4, 8 and 11 are not anticipated by the Shirasawa patent.

As for claims 5 and 12, the Kondo patent does not overcome the deficiencies of the Shirasawa patent. The Shirasawa patent and the Kondo patent, either individually or in combination, do not disclose or suggest all of the features recited in the claims 5 and 12. Accordingly, claims 5 and 12 are allowable.

Claims 1-13 are allowable for at least the above reasons, and notification to that effect is respectfully requested.

Should the examiner believe that a personal or telephonic interview would expedite prosecution, he is invited to contact the undersigned.

Respectfully submitted,

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